

What is claimed is:

1. A system for an automotive vehicle comprising:

a passive wheel lift detector generating a passive wheel lift signal;

5 an active wheel lift wheel lift detector generating an active wheel lift signal; and

10 an integrated wheel lift detector coupled to the passive wheel lift detector and the active wheel lift detector, said integrated wheel lift detector generating a final wheel lift signal in response to the passive wheel lift signal and the active wheel lift signal.

15 2. A system as recited in claim 1 further comprising a safety device, said controller controlling the safety device in response to the final wheel lift signal.

20 3. A system as recited in claim 1 wherein said integrated wheel lift detector comprises conflict removal logic, said final wheel lift signal generated in response to the conflict removal logic.

25 4. A system as recited in claim 3 wherein said conflict removal logic comprises when the state of the active wheel lift signal is less than or equal to a possibly grounded state and the passive wheel lift signal is greater than or equal to a possibly lifted

state, generating a no indication status for the final wheel lift signal.

5. A system as recited in claim 3 wherein said conflict removal logic comprises, when active wheel lift signal is greater than or equal to a possibly lifted state and the passive wheel lift signal is less than or equal to a possibly lifted state, generating a no indication signal.

10. A system as recited in claim 1 wherein said integrated wheel lift detector comprises a consistency check logic, said final wheel lift signal generated in response to consistency check logic.

15. A system as recited in claim 6 wherein the consistency check logic is performed in response to suspension characteristics.

8. A system as recited in claim 6 wherein the consistency check logic performs a front/rear wheel lift check.

20. A system as recited in claim 6 wherein the consistency check logic is performed in response to relative roll angle and roll rate.

10. A system as recited in claim 6 wherein the consistency check logic is performed in response to a turn direction, relative roll angle and roll rate.

11. A system as recited in claim 1 wherein the integrated wheel lift detector comprises brake pressure inhibit logic, said final wheel lift signal is generated in response to the brake pressure inhibit logic.

12. A system as recited in claim 1 wherein the integrated wheel lift detector comprises open throttle detection logic inhibiting the active wheel lift detector upon detection of a wide open throttle.

10 13. A method of controlling a vehicle comprising:  
passively detecting wheel lift and generating a passive wheel lift signal in response thereto;  
actively detecting wheel lift and generating a passive wheel lift signal in response thereto; and  
15 preventing the vehicle from rolling over in response to the active wheel lift signal and the passive wheel lift signal.

14. A method as recited in claim 13 further comprising inhibiting actively detecting wheel lift  
20 when a request for brake pressure is generated.

15. A method as recited in claim 14 wherein inhibiting comprises inhibiting actively detecting wheel lift when a request for brake pressure is generated by the roll control system.

25 16. A method as recited in claim 14 wherein inhibiting comprises inhibiting actively detecting

wheel lift when a request for brake pressure is generated by the vehicle operator.

17. A method as recited in claim 14 wherein inhibiting comprises inhibiting actively detecting 5 wheel lift in response to a throttle status.

18. A method as recited in claim 17 wherein the throttle status comprises a wide open throttle status.

19. A method as recited in claim 1 further comprising generating a final wheel lift status in 10 response to the conflict removal logic and wherein preventing the vehicle from rolling over comprises preventing the vehicle from rolling over in response to the final wheel lift status.

20. A method as recited in claim 19 wherein said 15 conflict removal logic comprises when the state of the active wheel lift signal is less than or equal to a possibly grounded state and the passive wheel lift signal is greater than or equal to a possibly lifted state, generating a no indication status for the final 20 wheel lift signal.

21. A method as recited in claim 19 wherein said 25 conflict removal logic comprises, when active wheel lift signal is greater than or equal to a possibly lifted state and the passive wheel lift signal is less than or equal to a possibly lifted state, generating a no indication signal.

22. A method as recited in claim 13 further comprising generating a final wheel lift signal in response to consistency check logic and wherein preventing the vehicle from rolling over comprises  
5 preventing the vehicle from rolling over in response to the final wheel lift status.

23. A method as recited in claim 23 wherein the consistency check logic is performed in response to suspension characteristics.

10 24. A method as recited in claim 23 wherein the consistency check logic performs a front/rear wheel lift check.

15 25. A method as recited in claim 23 wherein the consistency check logic is performed in response to relative roll angle and roll rate.

26. A method as recited in claim 23 wherein the consistency check logic is performed in response to a turn direction, relative roll angle and roll rate.

20 27. A method of controlling an automotive vehicle having a first wheel a second wheel, a third wheel and a fourth wheel comprising:

generating a first passive wheel lift signal, a second passive wheel lift signal, a third passive wheel lift signal, a fourth passive wheel lift signal;  
25 generating first active wheel lift signal, a second active wheel lift signal, a third active wheel lift signal, a fourth active wheel lift signal; and

generating a first final wheel lift signal in response to the first passive wheel lift signal and the first active wheel lift signal;

5 generating a second final wheel lift signal in response to the second passive wheel lift signal and the second active wheel lift signal;

generating a third final wheel lift signal in response to the third passive wheel lift signal and the third active wheel lift signal;

10 generating a fourth final wheel lift signal in response to the fourth passive wheel lift signal and the fourth active wheel lift signal.

28. A method as recited in claim 27 further comprising performing an front/rear wheel consistency 15 check.

29. A method as recited in claim 28 further wherein performing a front/rear wheel check comprises comparing the first final wheel lift signal and the third final wheel lift signal, in response to comparing 20 the first final wheel lift signal and the third final wheel lift signal, when the first final signal and the second final signal are inconsistent, generating a no indication status for the first final wheel lift signal and the second final wheel lift signal.

25 30. A method as recited in claim 28 wherein performing an opposite wheel check comprises comparing the second final wheel lift signal and the fourth final wheel lift signal, in response to comparing the second final wheel lift signal and the fourth final wheel lift

signal, when the second final signal and the fourth final signal are inconsistent, generating a no indication status for the first final wheel lift signal and the second final wheel lift signal.

5       31. A method as recited in claim 28 further comprising inhibiting at least one of generating first active wheel lift signal, a second active wheel lift signal, a third active wheel lift signal, a fourth active wheel lift signal when a request for brake 10 pressure is generated.

15       32. A method as recited in claim 31 wherein inhibiting comprises inhibiting at least one of generating first active wheel lift signal, a second active wheel lift signal, a third active wheel lift signal, a fourth active wheel lift signal when a request for brake pressure is generated by the roll control system.

20       33. A method as recited in claim 31 wherein inhibiting comprises inhibiting at least one of generating first active wheel lift signal, a second active wheel lift signal, a third active wheel lift signal, a fourth active wheel lift signal when a request for brake pressure is generated by the vehicle operator.

25       34. A method as recited in claim 31 wherein inhibiting comprises inhibiting at least one of generating first active wheel lift signal, a second active wheel lift signal, a third active wheel lift

signal, a fourth active wheel lift signal in response to a throttle status.

35. A method as recited in claim 34 wherein the throttle status comprises a wide open throttle status.

5 36. A method as recited in claim 27 controlling the a safety device in response to the first final wheel lift signal, the second final wheel lift signal, the third final wheel lift signal and the fourth final wheel lift signal.